



P.B. 5818 - Patentlaan 2  
2280 HV Rijswijk (ZH)  
☎ (070) 340 2040  
Tx 31651 epo nl  
FAX (070) 340 3018

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Division de la  
recherche.

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Jones Day  
Rechtsanwälte, Attorneys-at-Law,  
Patentanwälte  
Prinzregentenstrasse 11  
80538 München  
ALLEMAGNE

Eingegangen

JDRP - Munich 16p

06. Sep. 2004

① Frist: 13-10-2004 not

Bearb.: 03-10-2004 6p

Datum/Date

03.09.04

Zeichen/Ref./Réf.

J100311EP

Anmeldung Nr./Application No./Demande n°./Patent Nr./Patent No./Brevet n°

04008613.4-2214/

Anmelder/Applicant/Demandeur//Patentinhaber/Proprietor/Titulaire  
Research In Motion Limited

## COMMUNICATION

→ + EESR

The European Patent Office herewith transmits the partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that if the European search report is also to cover inventions other than the invention first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 869,--) or the equivalent applicable on the date of payment is payable.

This applies also to the search fees requested under Rule 46(1) EPC.

See also OJ EPO 06/1999, 405.

☐ The abstract was modified by the Search Division and the definitive text is attached to the present communication.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well. (01)



Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 02/1999.

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This application is covered by the extended European search report pilot project at present running within the European Patent Office, applied to all European patent applications filed as first filing and searched on or after 01.07.03. Under this project the EPO issues together with the search report an opinion on whether the application and the invention to which it relates meet the requirements of the EPC. This non-binding opinion is issued free of charge as a service. This opinion may be used as the basis for an informed decision as to whether it is desired to pursue the application further or not.

For further details of this pilot project, the applicant's attention is directed to the Official Journal edition 5/2003. If any further immediate questions or comments arise the EPO Customer Services: +31-70-340 4500 or +49-89-2399 2828 can be contacted.

**The attached opinion reveals that the application or the invention to which it relates appear not to meet the requirements of the Convention (see comments on enclosed Form 2906).**

If the applicant wishes to continue with this application the examination fee must be paid. Where appropriate amendments can be filed to address the objections raised in the opinion, thus shortening the overall procedure. If no amendments are filed, the opinion will be re-issued as the first official communication under Article 96(2) and Rule 51(2) EPC.

If the examination fee has already been paid and the right to the communication under Article 96(1) EPC has been waived for this application, the first official communication under Article 96(2) and Rule 51(2) EPC will be issued promptly.



The examination is being carried out on the following application documents:

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-22 as originally filed

**Drawings, Sheets**

1/4-4/4 as originally filed

**1 Prior art**

The following documents are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: EP-A-1 211 590 (NOKIA CORP) 5 June 2002

D2: FR-A-2 534 413 (FESTO MASCHF STOLL G) 13 April 1984

**2 Lack of unity**

The application lacks unity within the meaning of Article 82 EPC for the following reasons:

- 2.1 The common concept linking the two groups of claims 1-15 and 16-22 is the use of a plurality of support structures positioned adjacent to each other in spaced relation and a plurality of dome switches being positioned on said support structures, which is known e.g. from document D1.

There is furthermore no technical relationship among the inventions of said groups of claims involving one or more of corresponding special technical features according to Rule 30 EPC.

- 2.2 Hence the Examining Division considers that the following separate inventions are not so linked as to form a single general inventive concept:

1: switch configuration for use with a keyboard comprising at least one first and one second support structures, with first and second dome switches positioned thereon in spaced relation to each other, and each of said second dome switches being aligned with one of the plurality of apertures disposed through the first



structure; keyboard comprising said switch configuration and mobile communication device comprising said keyboard, and

2: switch configuration for use with a keyboard comprising a plurality of support structures positioned adjacent to each other in spaced relation, and a plurality of dome switches with at least one dome switch being coupled to each of the plurality of support structures, and mobile communication device comprising said switch configuration.

- 2.3 The application will be prosecuted on the basis of the invention in respect of which a search has already been carried out, in other words the invention first mentioned in the claims. The applicant should therefore limit the application to the invention searched and excise those parts of the application relating to the other invention.
- 2.4 The subject-matter to be excised may be made the subject of one or more divisional applications. The divisional applications must be filed directly at the European Patent Office in Munich or its branch at The Hague and in the language of the proceedings relating to the present application, cf Article 76(1) and Rule 4 EPC. The time limit for filing divisional applications (Rule 25(1) EPC) must be observed.

### 3 Independent claim 1 - novelty and inventive step

- 3.1 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of independent claim 1 is not new in the sense of Article 54(1) and (2) EPC.

The document D1 describes:

a switch configuration for use with a keyboard comprising:

- one first support structure (30) having a plurality of apertures (36) disposed therethrough (fig. 4a),
- one second support structure (40) positioned adjacent to the first support structure (fig. 4a),
- a plurality of dome switches (32) positioned on the first support structure in spaced relation to another (fig. 4a),
- a plurality of dome switches (34) positioned on the second support structure in spaced relation to another, each of said dome switches being aligned with one of the plurality of apertures in the first support structure (fig. 4a).

Since all of the features are disclosed in the prior art document D1 the subject-matter of claim 1 is not novel.



3.2 For the sake of completeness, it has to be remarked that the subject-matter of claim 1 does not involve an inventive step in the sense of Article 56 EPC, and therefore the requirements of Article 52(1) EPC are not met.

Document D2 describes:

a switch configuration for use with a keyboard comprising:

- one first support structure (13) having a plurality of apertures (21) disposed therethrough (fig. 2),
  - one second support structure (4) positioned adjacent to the first support structure (fig. 2),
  - a plurality of dome switches (5) positioned on the second support structure in spaced relation to another, each of said dome switches being aligned with one of the plurality of apertures in the first support structure (page 10, lines 20-28; fig. 2).
- from which the subject-matter of claim 1 differs in that:
- a plurality of dome switches positioned on the first support structure in spaced relation to another.

The problem to be solved by the present application may be regarded as how to increase the switch density in a switch configuration.

The solution proposed in claim 1 of the present application cannot be considered as inventive for the following reasons:

The feature "plurality of dome switches positioned on the first support structure in spaced relation to another" is described in document D1 (fig. 4a) as providing the same advantages as in the present application.

Also the switch configuration of D2 solves the problem posed, if we consider the linear actuators (9) equivalent to the dome switches of the application. The surface occupied by the linear actuators is reduced by disposing them in a two-level configuration (in the case of D2, the two boards 11 and 13), and the fact that the switches (being dome switches or any other kind of structures currently used in keyboards) are provided on both of the support structures or only in one of them is an obvious design option without influence in the inventive step.

The skilled person would however regard it as a normal design option to include a plurality of dome switches in the first support structure in the switch configuration described in D2. It would be obvious to combine D2 and D1, therefore the subject-matter of claim 1 does not involve an inventive step and does not satisfy the criterion set forth in Articles 52(1) and 56 EPC regarding D2 and D1.



#### 4 Independent claims 6 and 15

The subject-matter of claims 6 and 15 does not involve an inventive step in the sense of Article 56 EPC, and therefore the requirements of Article 52(1) EPC are not met. The reasons therefor are:

##### 4.1 Independent claim 6

The use of the switch configuration of claims 1-5 in a keyboard implies the use of a plurality of keys, each of them having an actuator associated with one of the plurality of dome switches. There is nothing of inventive significance in the formulation of the claim and the claim is not inventive.

##### 4.2 Independent claim 15

The use of such a keyboard in a mobile communication device is an obvious application of keyboard switches.

#### 5 Dependent claims

5.1 The subject-matter of claims 2-5, 7-8, 10-11 is disclosed in D1 and D2. See in particular:

- Claims 2-3: D1, fig. 2; D2, fig. 8a.
- Claims 4-5: D2, paragraph [0021], fig. 4a-4c.
- Claim 7: D1, fig. 2; D2, fig. 4a-4c.
- Claim 8: D1, 19, fig. 2; D2, 14, 24, fig. 8a.
- Claims 10-11: D1, fig. 2; D2, fig. 4a-4c.

The subject-matter of claims 2-5, 7-8, 10-11 is therefore not new in the sense of Article 54(1) and (2) EPC.

5.2 Dependent claims 9, 12-14 do contain any additional features which, in combination with the features the claim to which they refer, are new in the sense of Article 54(1) and (2) EPC, as they are already disclosed for the same purpose and providing the same advantages as in the present application in a similar switch configuration, see in particular:

- Claim 9: the presence of posts (19) associated with a first subset of switches and the absence of posts for a second subset of switches that are directly actuated by the actuators in D1 is a feature equivalent to the presence of posts of two different lengths.
- Claim 12: obviously if the actuators are associated with a dome switch they have to have a corresponding length to actuate them.
- Claims 13-14: obvious association in alphanumeric keyboards.



## 6 Conclusion

It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable an independent claim including such matter should be filed taking account of Rule 29(1) EPC. The applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof (e.g.: closest prior art, distinguishing technical features in view of this prior art, problem solved by these distinguishing technical features, unexpected/unforeseeable/surprising effect achieved by these features, further reasons for inventive step).

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 211 590 A (NOKIA CORP) 5 June 2002 (2002-06-05) * paragraph '0018! - paragraph '0031!; figures 4a-4c, 8a-8b *	1-15	H01H13/70 H04M1/23
X	FR 2 534 413 A (FESTO MASCHF STOLL G) 13 April 1984 (1984-04-13) * page 1 - page 11; figures 1,2 *	1-15	
A	US 5 294 758 A (FRANKHOUSE JAY M ET AL) 15 March 1994 (1994-03-15) * column 2, line 51 - column 8, line 25; figures 6-11 *	1-15	
A	DE 36 31 428 A (TELEFUNKEN ELECTRONIC GMBH) 17 March 1988 (1988-03-17) * column 2, line 1 - column 5, line 15; figure 1 *	1-15	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01H G06F H04M B60K
LACK OF UNITY OF INVENTION			
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:			
see sheet B			
The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.			
Place of search	Date of completion of the search	Examiner	
Munich	24 August 2004	Nieto, J.M.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			





The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-15

Switch configuration for use with a keyboard, keyboard comprising said switch configuration and mobile communication device comprising said keyboard

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2. claims: 16-22

Switch configuration for use with a keyboard and mobile communication device comprising said switch configuration

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The application lacks unity within the meaning of Article 82 EPC for the following reasons:

1 The common concept linking the two groups of claims 1-15 and 16-22 is the use of a plurality of support structures positioned adjacent to each other in spaced relation and a plurality of dome switches being positioned on said support structures, which is known e.g. from document D1.

There is furthermore no technical relationship among the inventions of said groups of claims involving one or more of corresponding special technical features according to Rule 30 EPC.

2 Hence the Examining Division considers that the two inventions or groups of inventions are not so linked as to form a single general inventive concept.

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 00 8613

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-08-2004

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
EP 1211590	A	05-06-2002	US	6670893 B1	30-12-2003
			EP	1211590 A1	05-06-2002
FR 2534413	A	13-04-1984	DE	3237100 A1	12-04-1984
			FR	2534413 A1	13-04-1984
US 5294758	A	15-03-1994	NONE		
DE 3631428	A	17-03-1988	DE	3631428 A1	17-03-1988

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